

Site: Shiloh Church Road Site

Task: GWS and Rad Hotspot Excavation

Date: 8/9/19

Predicted Predominant Wind Direction: WNW

Predicted Maximum Wind Speed: 8 mph



Ludlum 3030 Serial Number:	187982	Cal Due Date:	2/19/2020
Th-230 4π efficiency:	0.3244	Tc-99 4π efficiency:	0.3155
Pu-239 4π efficiency:	0.3996	C-14 4π efficiency:	0.0679
Am-241 4π efficiency:	0.3452	Sr-90 4π efficiency:	0.4264

Notes:

Radionuclide Air Sampling
Daily Summary
Shiloh Church Road Site
Halifax County, Virginia

Date: 8/9/19

Predicted Predominant Wind Direction: WNW

Public Results

Effluent Limits	Alpha (Ra-226)	9.00E-13	Beta (Pb-210)	6.00E-13
Air Sampler Location	% Of Effluent Concentration Limit	Alpha Result	% Of Effluent Concentration Limit	Beta Result
Perimeter-1 - South Break Area	<1.46%	0.00E+00	<69.13%	1.06E-13

Worker Results

Derived Air Concentrations	Alpha (Ra-226)	3.00E-10	Beta (Pb-210)	1.00E-10
Tasks Monitored	% Of DAC	Alpha Result	% of DAC	Beta Result
AC-1 - GWS Team	<0.10%	-6.23E-14	<9.44%	-8.22E-12
AC-5 - Hotspot Team	<0.10%	-1.50E-13	<9.50%	-8.07E-12

Comments:

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Air Sampling Unit: Radeco H-810 ERT-148

Calibrator Serial: 3267

Cal Due Date: 8/9/19

α isotope of concern

Ra-226

β isotope of concern

Pb-210

Start Date/Time	8/9/19 8:17				Stop Date/Time				8/9/19 16:31				
					Total Liters				53,429				
Analysis Date/Time	Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)
8/15/19 16:25	143.9	120	60	92	46	0.	1.31E-14	0.00E+00	4826	2464	0.85	4.15E-13	1.06E-13
Final Result	Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)
8/15/19 16:25	143.9	120	60	92	46	0.	1.31E-14	0.00E+00	4826	2464	0.85	4.15E-13	1.06E-13
							% Eff Criteria:	<1.46%				% Eff Criteria:	<69.13%

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Air Sampling Unit: AirCheck XR5000 AC-1

Dry Cal Serial: 30709

Cal Due Date: 7/11/20

Dry Cal Serial: 30709					Cal Due Date: 7/11/20					α isotope of concern			Ra-226		β isotope of concern			Pb-210	
Pre Flow Rate (LPM)		4.656					Post Flow Rate (LPM)					5.007							
Start Date/Time		8/9/19 8:54					Stop Date/Time					8/9/19 16:28							
							Total Liters					2043.7							
Analysis Date/Time		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)					
8/14/19 15:05		118.6	120	90	91	60	-0.09	2.94E-13	-6.23E-14	4732	3321	-2.53	9.44E-12	-8.22E-12					
Final Result		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)					
8/14/19 15:05		118.6	120	90	91	60	-0.09	2.94E-13	-6.23E-14	4732	3321	-2.53	9.44E-12	-8.22E-12					
								% DAC:	<0.10%				% DAC:	<9.44%					

Notes: Assigned to GWS Team.

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Air Sampling Unit: AirCheck XR5000 AC-5

Dry Cal Serial: 30709

Cal Due Date: 7/11/20

Dry Cal Serial: 30709					Cal Due Date: 7/11/20					α isotope of concern			Ra-226		β isotope of concern			Pb-210	
Pre Flow Rate (LPM)		4.704					Post Flow Rate (LPM)					4.880							
Start Date/Time		8/9/19 8:55					Stop Date/Time					8/9/19 16:29							
							Total Liters					2051.0							
Analysis Date/Time		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)					
8/15/19 9:25		136.9	120	90	92	49	-0.22	2.94E-13	-1.50E-13	4826	3395	-2.49	9.50E-12	-8.07E-12					
Final Result		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)					
8/15/19 9:25		136.9	120	90	92	49	-0.22	2.94E-13	-1.50E-13	4826	3395	-2.49	9.50E-12	-8.07E-12					
								% DAC:	<0.10%				% DAC:	<9.50%					

Notes: Assigned to rad hotspot team.